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**ANNUAL**  
**VACCINATION REPORT**  
**BIHAR AND ORISSA**  
**FOR THE YEAR**  
**1926-27**

BY

LIEUT-COL. J. A. S. PHILLIPS, D.P.H., I.M.S.,  
*Offg. Director of Public Health, Bihar and Orissa.*



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# ANNUAL VACCINATION REPORT

## BIHAR AND ORISSA.

FOR THE YEAR

1926-27.

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1. *Staff*.—Lieutenant-Colonel W. C. Ross, I.M.S., held charge of the department up to 14th April 1926 and Lieutenant-Colonel J. A. S. Phillips, I.M.S., for the remaining period of the year.

The undermentioned officers held charge of the three circles for periods as noted against their names :—

(1) *South Bihar Circle*.—Captain S. L. Mitra, I.M.S., from 1st April 1926 to 31st March 1927.

(2) *North Bihar Circle*.—Dr. J. L. Das from 1st April to 13th December 1926.

Dr. B. P. Mazoomdar from 14th December 1926 to 31st March 1927.

(3) *Chota Nagpur and Orissa Circle*.—Dr. T. Sebastian from 1st April to 18th April 1926 and from 24th May 1926 to 31st March 1927. Lieutenant-Colonel J. A. S. Phillips, I.M.S., from 19th April to 23rd May 1926.

Dr. T. Sebastian held charge of the Vaccine Dépôt at Namkum throughout the year except for the period when he was on leave (19th April to 23rd May) when Lieutenant-Colonel J. A. S. Phillips, I.M.S., held charge.

The Inspecting staff consisted of 20 District Inspectors of Vaccination and 69 Sub-Inspectors of Vaccination (including three deputed for duty at the Vaccine Dépôt) in addition to the one Sub-Assistant Surgeon combining vaccination inspection with other duties in Angul. The total number of vaccinators employed in the province during the year was 1,111 licensed and 278 paid against 1,105 licensed and 226 paid in the previous year.

In municipalities and in the district of Puri, vaccination was done by paid vaccinators ; but otherwise the work throughout the province was carried out under the licensing system, except for the employment of paid vaccinators by district boards, and employed temporarily by Civil Surgeons for short periods to deal with outbreaks of small-pox.

2. *Operations performed*.—The total number of operations performed during the year amounted to 1,351,084 as compared with 1,297,768 last year. This increase is most satisfactory and is attributable to three main causes :—

(a) The increasing area where vaccination is compulsory.

(b) The widespread epidemic of small-pox in the province which induced the people to seek protection by vaccination.

(c) Increased efforts on the part of the vaccination staff.

From information I have been able to elicit I do not consider that the difficulties experienced by the vaccination staff in performing operations have in any way diminished, or that the opposition on the part of parents to allow their children to be vaccinated decreased. Reports from all Civil Surgeons and the three Assistant Directors of Public Health bear this out. In my



opinion the increase in the number of vaccinations done in 1926 is largely due to fear of infection in a year when small-pox prevailed in epidemic form in all districts of the province.

Of the total number of operations performed 1,332,312 were done by the staff of the vaccination department as compared with 1,277,814 done last year. 1,130,934 operations were primary and 201,378 were re-vaccinations against 1,084,230 primary operations and 193,584 re-vaccinations done last year.

There was an increase of 46,704 in the number of primary operations and 7,794 in the number of re-vaccinations during the year. Of the total operations performed (1,332,312), 1,239,476 equal to 93·03 per cent. were successful as compared with 1,191,042 equal to 93·21 last year.

The number of operations performed in municipalities decreased by 21,075 as compared with last year's returns. The total number of operations performed was 72,587 and the number of successful operations was 50,762, of which 34,780 were primary and 15,982 were re-vaccinations as compared with 39,370 and 26,036, respectively, last year. The ratios of success in municipalities were 96·41 per cent. for primary operations and 43·77 per cent. for re-vaccinations as compared with 97·64 per cent. and 48·80 per cent., respectively, last year.

The number of operations performed in rural areas was 1,259,725 as compared with 1,184,152 last year and the ratios of successes were 99·49 per cent. for primary operations and 60·33 for re-vaccinations.

3. *Vaccination in districts.*—All the three districts of the Patna division reported an increase in the number of operations performed, Patna (26,574), Gaya (5,092), and Shahabad (20,811).

Fatna division.

The districts of Muzaffarpur, Darbhanga and Champaran recorded increases of 9,711, 5,353 and 11,607 respectively, whereas Saran recorded a decrease of 5,186.

Tirhut division.

All the districts of the Bhagalpur division recorded increases. The Santal Parganas district recorded the highest increase in this division, viz., 7,045.

Bhagalpur division.

With the exception of Balasore, all the other districts of Orissa recorded decreases in the number of operations, the greatest decrease being in Puri (24,448). The district of Balasore recorded an increase of 10,763.

Orissa division.

With the exception of Manbhum and Hazaribagh, the three other districts recorded decreases in the number of operations, the greatest decrease being in Singhbhum (4,525).

Chota Nagpur division.

4. *Vaccination in towns and compulsory areas.*—Statement VII shows that during the year, 16,720 children under one year of age, out of an available number of 31,529 or 53·03 per cent. were successfully vaccinated.

The towns of Muzaffarpur, Darbhanga and Monghyr show the smallest proportion of work done, and the towns of Barh and Daltonganj also made unsatisfactory returns.

5. *Work done in the Native States under the supervision of the Political Agent and Commissioner.*—Vaccination work in the Orissa Feudatory States has steadily developed during recent years under the direction and encouragement of the Political Agent and Commissioner.

Both vaccination and to a large extent re-vaccination are practically compulsory in the majority of these States.



During the year under report 177,286 primary operations and 294,729 re-vaccinations were performed as compared with 178,698 and 277,553, respectively, in the previous year.

6. *Protection of infants.*—During the year under report the number of children under one year available for vaccination was 1,080,668 and the number of successful operations was 417,112 equal to 386 per thousand against 378,345 or 356 per thousand successful operations out of 1,063,703 children available during the previous year. The protection of infants in municipalities is separately shown in statement VII. It gives a ratio of 540 per thousand of the surviving infant population as compared with 570 in the previous year.

These figures are unsatisfactory inasmuch as they show that far more than half of the total number of operations is performed on children over one year of age. Civil Surgeons and Assistant Directors of Public Health are unanimous in attributing the opposition to vaccination to be concerned more with the age of the child than with the operation itself, as there is a strong prejudice against vaccination of infants at an early age. The advantages in retaining the limit of age for compulsory primary vaccination as it now stands are obvious, but prejudices in India die hard and it will take years of education to dispel this one.

7. *Incidence and mortality of small-pox.*—During the last ten years, the total number of deaths from small-pox in the districts of this province has been 128,998.

During the first quinquennium the number of deaths was 55,691, and during the second 73,307. In each of the last five years the mortality was as follows :—2,695, 3,893, 8,345, 22,748 and 35,626.

This shows a progressively increasing annual total, but does not necessarily mean that this steady increase is going to continue. Small-pox is endemic in the province, and will continue to be so until and unless vaccination and re-vaccination are made compulsory. Epidemics of the disease occur at intervals of about five or six years and at these times the number of both primary and secondary vaccinations done increases. The epidemic persists in varying intensity for two or three years and then dies out, but small-pox still continues in endemic form. At the end of another five or six years there is a recrudescence and it appears in epidemic form again. In 1926 we were at the height of the epidemic and there are already signs of its lessening in most of the districts.

The provincial ratios of the mortality from small-pox per thousand of population during the last five years have been 0·07, 0·11, 0·24, 0·67 and 1·05.

8. *Prevention of small-pox.*—The statistics given in the previous paragraphs indicate the insufficiency and inefficiency of the existing arrangements for vaccination, and it almost appears as if we relied more on natural causes to eventually arrest an epidemic, than in our efforts at prevention by vaccination.

Small-pox is a preventible disease and vaccination can prevent it, as it has in countries where it is properly carried out. In the light of this knowledge and in face of the above facts there is a great necessity for a stronger and more complete vaccination policy.

The question of compulsory vaccination throughout the province has been under consideration for some time and primary vaccination has been and is being extended to whole districts and areas in districts. Difficulty is still being experienced in certain areas and amongst certain classes notably the Brahmans, Rajputs and Bunniahs and in some cases the Muhammadans, of almost every district, and where these difficulties become acute, the Vaccination Act is extended on application from the district officials.

But the process is a slow one, and the time has now come when vaccination should be made compulsory throughout the province and should be free. Compulsory primary vaccination alone, although it will be beneficial, will not



solve the difficulty completely. The immunity conferred by vaccination in infancy is by no means lifelong, and if it is seriously desired that small-pox should be eradicated, re-vaccination will also have to be compulsory, until such time as the people themselves come to appreciate the benefits of it.

9. *Inspection of work.*—During the year under report the Assistant Directors of Public Health inspected 78,083 primary vaccinations as against 71,574 in the previous year.

The inspecting work done by the Assistant Directors of Public Health has been comprehensive and they have submitted valuable reports on the efficiency of the staff and work in all the 21 districts in the province.

The Civil Surgeons of the province inspected 30,934 primary and 7,071 re-vaccination operations against 25,046 primary and 5,684 re-vaccinations last year.

It should be noted that the methods of inspection of Civil Surgeons and Assistant Directors of Public Health are different. Civil Surgeons inspected the new work which has just been done and the numbers returned by them are therefore smaller, whereas Assistant Directors of Public Health inspect all the children under ten years of age, and look at old work as well as new work, and also look for unvaccinated children and children who are marked with small-pox, and they also examine vaccinators' registers and other records in the villages where they can be verified and checked.

10. *Supply of vaccine.*—The Vaccine Dépôt at Namkum supplied the province with vaccine throughout the year. A large supply of vaccine is held in reserve and the necessary stores and supplies for manufacture are in ample stock. 4,297,874 doses of vaccine were manufactured during the year as compared with 4,596,543 doses last year. The number of doses issued was 3,238,632 against 2,881,416 in 1925-26. The number of doses in stock at the end of the year was 5,692,121. The number of cattle used during the year was 707 as compared with 828 in the previous year, and the average yield of crude vaccine was over 59 grammes per animal as compared with 56 grammes in the previous year. The working cost of the dépôt for the year amounted to Rs. 25,686 as compared with Rs. 28,643 in the previous year. The average cost of the vaccine per dose works out at 1.14 pies on the gross expenditure, and as the sale-proceeds of vaccine lymph including a large quantity supplied to Bengal, exceeded the working cost of the dépôt by Rs. 3,454-11-8, this sum constituted a nett profit for the year.

11. *Vaccine dépôt and cold storage.*—During the year under report there was no serious epidemic amongst calves except a mild outbreak of foot and mouth disease in the latter part of December 1926 which was brought under control at once by the prompt isolation of the infected calves and disinfection.

The total mortality amongst calves was exceptionally low, being only 1.3 per cent. as compared with 4.3 per cent. in 1925-26, 6 per cent. in 1924-25 and 12 per cent. in 1923-24 and 22 per cent. in 1922-23.

Since the cold storage plant was duplicated in 1924-25 there has been no trouble with regard to the storage of vaccine, and the cold storage and machinery worked satisfactorily throughout the year.

Throughout the year cholera vaccine and influenza vaccine were stocked in the dépôt and issued throughout the province as required.

12. *Experimental work.*—All seed vaccine was manufactured at the dépôt and worked satisfactorily. 4,590 grammes of seed vaccine was prepared and some of this was sold to the Calcutta Corporation to start their work.

The rejuvenation of the seed vaccine was maintained by passage through children, buffalo calves and cow calves.



Experiments with regard to maintaining a low temperature in the bamboo reeds in which the vaccine is supplied during the hot weather were carried out with some success. Experiments were also made with a view to destroying extraneous germs in the vaccine without affecting its potency—these are being continued.

13. *Cost of the department.*—The total cost of the Vaccination Department (excluding the Vaccine Depôt) during the year, as detailed in Statement II, was Rs. 162,082 or Rs. 7,418 more than the previous year. This increase is due partly to the increase of pay earned by the Assistant Director of Public Health, South Bihar Circle, and the leave salary drawn by the Assistant Director of Public Health, North Bihar Circle.

The cost per successful operation was two annas and one pie against two annas in the previous year.

14. *Personal.*—In conclusion I desire to bring to the notice of Government the good work done by Assistant Directors of Public Health—Captain S. L. Mitra, Dr. T. Sebastian and Dr. J. L. Das in charge of South Bihar Circle, Chota Nagpur and Orissa Circle, and North Bihar Circle, respectively, in connection with the inspection of vaccination in their respective circles.

Dr. T. Sebastian was in charge of the Vaccine Depôt in addition to his other duties throughout the year, except for a brief period when he was on leave.

Dr. C. N. Banerji, the Superintendent of the depôt, worked hard and well.

J. A. S. PHILLIPS, LIEUT.-COLONEL, I.M.S.,  
*Offg. Director of Public Health.*

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**STATEMENT I.**

## STATEMENT NO. I.—Showing particulars of Vaccination in the

Number.	District.		Population of district according to the census of 1921.	Average population per square mile.	Average number of vaccinators employed throughout the season.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary Total.
						Male.	Female.	Total.		
1	2		3	4	5	6			7	8
Patna Division.										
1	Patna	By paid Vaccinators ...	1,574,287	761	25	14,011	7,216	21,227	849	11,545
		By licensed Vaccinators ...			62	39,997	39,255	79,252	1,278	78,897
2	Gaya	By paid Vaccinators ...	2,152,930	457	17	6,305	4,182	10,487	617	7,890
		By licensed Vaccinators ...			83	36,687	27,705	64,392	702	67,414
3	Shahabad	By paid Vaccinators ...	1,816,821	415	13	6,755	3,244	9,999	769	5,152
		By licensed Vaccinators ...			82	36,829	30,413	67,242	820	64,023
Total of Patna Division			5,544,038	497	55	27,071	14,642	41,713	758	24,587
					227	107,413	97,373	204,786	902	200,334
Tirhut Division.										
4	Saran	By paid Vaccinators ...	2,339,953	872	11	2,187	1,878	4,065	369	3,063
		By licensed Vaccinators ...			83	38,817	34,777	73,594	886	73,254
5	Champaran	By paid Vaccinators ...	1,940,841	540	19	10,488	5,062	15,550	818	2,807
		By licensed Vaccinators ...			67	26,749	22,992	49,741	742	41,718
6	Muzaffarpur	By paid Vaccinators ...	2,754,945	907	13	7,862	4,457	12,319	947	3,099
		By licensed Vaccinators ...			79	49,704	46,482	96,186	1,217	91,881
7	Darbhangha	By paid Vaccinators ...	2,913,529	870	10	5,219	3,556	8,775	877	3,183
		By licensed Vaccinators ...			88	52,446	48,956	101,402	1,152	98,813
Total of Tirhut Division			9,949,268	789	53	25,756	14,953	40,709	768	12,152
					317	167,716	153,207	320,923	1,012	305,666
Bhagalpur Division.										
8	Monghyr	By paid Vaccinators ...	2,029,965	518	8	2,972	1,796	4,768	596	2,930
		By licensed Vaccinators ...			61	37,497	33,108	70,605	1,207	72,783
9	Bhagalpur	By paid Vaccinators ...	2,033,770	481	11	8,999	5,136	14,135	1,285	6,321
		By licensed Vaccinators ...			63	35,196	32,613	67,809	1,076	64,700
10	Purnea	By paid Vaccinators ...	2,024,608	405	11	2,655	1,404	4,059	369	1,603
		By licensed Vaccinators ...			56	26,281	23,466	49,747	888	47,836
11	Santal Parganas	By paid Vaccinators ...	1,798,639	329	10	8,181	4,875	13,056	1,305	4,400
		By licensed Vaccinators ...			57	31,108	27,635	58,743	1,030	53,662
Total of Bhagalpur Division.			7,886,982	423	40	22,807	13,211	36,018	900	15,154
					237	130,082	119,822	249,904	1,054	238,981
Orissa Division.										
12	Cuttack	By paid Vaccinators ...	2,064,678	565	21	12,969	7,851	20,820	991	10,867
		By licensed Vaccinators ...			73	18,126	14,069	32,195	441	29,014
13	Balasore	By paid Vaccinators ...	980,504	470	7	7,241	3,256	10,497	1,499	1,565
		By licensed Vaccinators ...			30	21,975	17,492	39,467	1,315	26,237
14	Angul	By licensed Vaccinators ...	182,574	112	10	10,770	9,942	20,712	2,071	6,412
15	Puri	By paid Vaccinators ...	951,651	380	35	34,294	20,034	54,328	1,392	39,192
16	Sambalpur	By paid Vaccinators ...	789,466	206	4	371	209	580	145	305
		By licensed Vaccinators ...			34	10,237	10,076	20,313	597	20,163
Total of Orissa Division			4,968,873	361	67	54,875	31,350	86,225	1,287	51,949
					147	61,108	51,579	112,687	766	81,826



*districts of Bihar and Orissa during the year 1926-27.*

Vaccination.				Re-vaccination.			Percentage of successful cases in which the results were known.		Persons successfully vaccinated per 1,000 of population.	Percentage of unknown cases to total cases.		Average annual number of persons successfully vaccinated during previous five years.		Average annual number of deaths from small-pox during previous five years.	
Successful.				Total.	Successful.	Unknown.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	Number.	Ratio per 1,000 of population.	Number.	Ratio per 1,000 of population.
Under one year.	One year and under six years.	Total of all ages.	Unknown.												
9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
3,332	6,940	11,012	170	9,682	4,529	1,951	93'99	58'58	60'52	1'47	20'15	65,025	41'30	383	0'24
21,848	47,886	78,795	4	355	186	20	99'87	55'52		0'005	5'63				
2,959	4,261	7,797	17	2,597	1,499	449	99'03	69'78	31'69	0'21	17'29	51,933	24'12	365	0'17
11,788	42,602	57,240	89	878	723	8	99'85	82'91		0'15	0'68				
2,840	1,785	5,093	34	4,847	2,579	150	99'51	54'91	40'83	0'66	3'09	56,893	31'27	200	0'11
26,725	27,999	63,963	10	3,219	2,304	48	99'92	72'65		0'01	1'49				
9,031	12,986	23,902	221	17,126	8,607	2,550	98'09	59'05	42'49	0'89	14'89	173,851	31'34	948	0'17
60,361	118,487	199,997	103	4,452	3,213	74	99'88	73'39		0'05	1'66				
1,709	953	2,914	69	1,002	438	144	97'33	51'05	32'75	2'22	14'37	67,040	28'65	543	0'23
17,929	50,301	72,681	275	340	279	10	99'59	84'54		0'37	2'94				
1,069	1,449	2,738	36	12,743	7,247	2,505	98'81	70'78	29'89	1'28	19'65	44,495	22'92	503	0'25
9,620	30,833	41,583	36	8,023	6,354	854	99'76	88'63		0'08	10'64				
713	2,304	3,059	9	9,220	3,137	2,625	98'70	47'56	36'37	0'29	28'47	89,787	32'59	349	0'13
15,592	75,257	91,449	29	4,305	2,131	321	99'56	53'49		0'03	7'43				
1,274	1,741	3,080	52	5,592	1,422	976	98'37	30'80	35'85	1'63	17'45	92,405	31'71	252	0'08
26,640	71,725	98,483	8	2,589	1,305	116	99'67	52'77		0'008	4'48				
4,765	6,447	11,782	166	23,557	12,244	6,250	93'29	54'88	34'00	1'36	21'88	293,727	29'52	1,647	0'16
69,781	228,116	304,196	348	15,257	10,069	1,301	99'63	72'15		0'11	8'52				
1,506	1,369	2,898	4	1,838	703	382	99'04	48'28	37'92	0'13	20'78	64,153	31'60	240	0'12
24,420	48,159	72,756	7	822	636	48	99'97	82'17		0'09	5'83				
2,967	3,098	6,126	52	7,914	5,333	809	99'30	75'05	38'90	0'83	10'21	66,530	32'71	536	0'26
25,857	38,166	64,546	10	3,109	2,348	203	99'77	80'79		0'01	6'52				
689	877	1,577	6	2,456	790	260	98'75	35'97	25'45	0'04	13'39	40,643	20'07	333	0'16
17,808	29,195	47,667	21	1,911	1,124	256	99'69	67'91		...	7'74				
2,378	1,854	4,292	61	8,656	5,332	1,721	98'91	76'89	37'47	1'38	19'88	56,904	31'63	125	0'07
31,029	22,248	53,534	69	5,091	3,094	809	99'89	72'42		0'12	15'92				
7,529	7,218	14,893	123	20,864	12,158	3,171	99'08	68'71	34'58	0'01	15'19	228,230	28'93	1,234	0'16
99,114	137,708	238,503	107	10,923	7,202	1,316	99'84	74'96		0'04	12'05				
4,115	5,529	10,646	141	9,953	4,191	2,689	99'25	57'69	21'99	1'29	27'01	55,451	26'85	1,562	0'75
11,549	15,787	28,885	87	3,181	1,181	957	99'85	53'10		0'29	30'05				
471	876	1,583	2	8,912	5,509	1,400	100'00	73'33	43'48	0'12	15'71	28,189	28'74	528	0'54
5,939	17,677	26,102	39	13,230	8,349	1,560	99'97	80'11		0'14	11'79				
3,929	2,442	6,342	13	14,300	11,123	24	99'11	77'91	95'66	0'20	0'17	8,549	46'82	1	0'005
9,256	22,143	38,018	1,021	15,136	8,458	3,907	99'59	75'32	48'92	2'60	25'81	4,953	43'04	1,693	1'78
161	132	295	7	275	48	93	98'99	26'37	26'31	2'29	33'62	21,349	27'04	125	0'10
15,099	4,850	20,012	68	150	98	26	99'53	79'03		0'34	17'33				
14,003	28,690	50,542	1,171	34,276	18,206	8,089	99'53	69'52	34'60	2'25	23'59	154,485	31'09	3,909	0'79
36,497	40,756	81,431	207	30,861	21,751	2,567	99'76	76'87		0'25	8'31				



## STATEMENT NO. I.—Showing particulars of Vaccination in the

Number.	District.	Population of district according to the census of 1921.	Average population persquare mile.	Average number of vaccinators employed through- out the season.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary	
					Male.	Female.	Total.		Total.	
1	2	3	4	5	6			7	8	
Chota Nagpur Division.										
17	Hazaribagh ...	{ By paid Vaccinators ... } { By licensed Vaccinators ... }	1,276,946	181	{ 11 45	4,305 21,114	1,632 19,582	5,937 40,696	540 904	1,983 39,393
18	Ranchi ...	{ By paid Vaccinators ... } { By licensed Vaccinators ... }	1,334,473	187	{ 9 47	3,705 30,042	1,714 25,740	5,419 55,782	602 1,186	1,571 48,228
19	Palamau ...	{ By paid Vaccinators ... } { By licensed Vaccinators ... }	733,394	149	{ 6 25	1,219 10,891	956 10,393	2,175 21,284	362 851	1,128 21,265
20	Manbhum ...	{ By paid Vaccinators ... } { By licensed Vaccinators ... }	1,548,777	373	{ 34 40	20,262 25,666	14,808 24,301	35,070 49,967	1,031 1,349	18,775 47,359
21	Singhbhum ...	{ By paid Vaccinators ... } { By licensed Vaccinators ... }	759,438	195	{ 3 26	432 11,947	357 10,281	789 22,228	263 855	651 19,932
Total of Chota Nagpur Division.		{ By paid Vaccinators ... } { By licensed Vaccinators ... }	5,653,028	208	{ 63 183	29,923 99,660	19,467 90,297	49,390 189,957	784 1,038	24,108 176,177
Total of Vaccine De- partment.		{ By paid Vaccinators ... } { By licensed Vaccinators ... } Total ...	34,002,189	409	{ 278 1,111 1,389	160,432 565,979 726,411	93,623 512,268 605,901	254,055 1,078,257 1,332,312	914 970 959	127,950 1,002,984 1,130,934
Total Dispensary Department		...	...	...	...	...	...	...	...	...
Total Railways		...	...	...	...	1,951	756	2,707	...	864
Total Cooly Department		...	...	...	...	1,319	450	1,769	...	69
Total Jails and Cantonments		...	...	...	...	13,489	807	14,296	...	601
Grand Total		...	...	...	1,389	742,970	607,914	1,351,084	959	1,132,468



*districts of Bihar and Orissa during the year 1926-27—concl.*

Vaccination.				Re-vaccination.			Percentage of successful cases in which the results were known,		Persons successfully vaccinated per 1,000 of population.	Percentage of unknown cases to total cases.		Average annual number of persons successfully vaccinated during previous five years.		Average annual number of deaths from small-pox during previous five years.	
Successful.				Total.	Successful.	Unknown.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	Number.	Ratio per 1,000 of population.	Number.	Ratio per 1,000 of population.
Under one year.	One year and under six years.	Total of all ages.	Unknown.												
9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
861	1,034	1,961	11	3,954	2,302	691	99.44	79.54	35.97	0.55	17.47	55,583	27.86	125	0.09
17,573	21,564	39,383	3	1,303	689	253	99.93	65.80		0.007	19.64				
1,175	365	1,570	...	3,848	2,689	344	99.93	76.73	45.63	...	8.94	46,477	34.82	172	0.13
38,700	9,402	48,218	2	7,554	5,398	641	99.98	78.08		0.004	8.48				
278	698	1,075	41	1,047	259	415	98.59	40.98	30.84	3.63	39.63	17,981	24.51	116	0.16
14,986	5,791	21,241	16	19	3	16	99.98	105.00		0.07	84.21				
5,032	12,036	17,572	533	16,295	7,655	3,680	96.32	6.44	48.32	28.39	22.17	55,233	35.66	130	0.60
24,095	23,010	47,359	...	2,608	1,815	91	100.09	72.19		...	3.60				
257	327	605	16	138	99	12	95.27	73.57	59.44	2.45	8.69	19,561	25.75	235	0.31
13,156	6,561	19,791	105	2,293	1,091	948	99.82	80.93		0.52	41.28				
7,601	14,460	22,783	601	25,282	13,904	5,092	96.92	64.40	39.65	2.49	26.14	174,835	30.93	778	0.14
108,520	66,328	175,997	126	12,730	8,996	1,955	99.97	76.7		0.07	14.18				
42,929	69,791	123,902	2,232	126,105	64,219	25,152	98.59	63.61	36.45	1.78	19.91	1,025,128	30.14	8,516	0.25
374,183	591,455	1,000,124	891	71,273	51,231	7,213	99.80	75.27		0.18	9.58				
417,112	661,246	1,124,026	3,173	201,378	115,450	32,365	99.67	68.31	0.28	16.07					
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
479	284	793	36	1,843	829	66	95.77	50.02	...	4.16	3.58	...	...	...	...
...	...	...	35	1,700	...	1,700	...	..	...	50.72	100.00	...	...	...	...
172	200	575	11	13,695	6,595	1,892	97.41	53.60	...	1.83	19.16	...	...	...	...
417,763	661,730	1,125,391	3,275	218,616	122,934	35,523	99.66	67.14	...	0.29	16.25	...	...	...	...

## Summary.

	Total number of persons vaccinated.		Total number of operations performed.		Percentage of successful cases in which the results were known.		Average number of persons vaccinated by each vaccinator.		Number of children successfully vaccinated.		Ratio of successful vaccinations per 1,000 of population.	Total cost of Department.	Average cost of each successful case.	
	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Vaccinators employed.	Persons vaccinated by each vaccinator.	Under one year.	One and under 6 years.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
												Rs. a. p.	Rs. a.	
BY SPECIAL STAFF.														
Statement (I) ...	1,130,634	201,378	1,130,934	201,378	99.67	63.31	1,389	959	417,112	681,216	36.71	1,62,082 3 5	0 2	
BY DISPENSARY STAFF.														
Statement III ...	...	...	...	...	...	...	...	...	...	...				
BY OTHER AGENCIES.														
Railways, Cooly Depot, Jails and Cantonments.	1,534	17,288	1,534	17,288	94.21	53.15	...	...	651	484				
Total ...	1,132,468	218,616	1,132,468	218,616	99.68	67.14	1,389	959	417,763	681,730	36.71	162,082 3 5	0 2	



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**STATEMENT II.**

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## STATEMENT NO. II.—Showing the cost of vaccination in the

No.	Circle and district.	European supervising officer.	Expen										
			Pay.	Native supervising officer.	Pay.	Paid vaccinators.	Pay.	Licensed vaccinators.	Pay.	Clerks.	Pay.	Peons, etc.	Pay.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	PATNA DIVISION.				Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.		Rs. a. p.
1	Patna ... ..	...	...	5	2,384 1 0	25	3,294 7 6	62	...	...	...	2	240 0 0
2	Gaya ... ..	...	...	5	2,431 15 0	17	2,223 13 0	83	...	...	...	2	216 0 0
3	Shahabad ... ..	...	...	5	2,460 0 0	13	1,112 5 9	82	...	...	...	...	...
	Total of Patna Division ...	...	...	15	7,276 0 0	55	6,630 .0 3	227	...	...	...	4	456 0 0
	TIRHUT DIVISION.												
4	Saran ... ..	...	...	4	2,115 0 0	11	1,180 5 0	83	...	...	...	...	...
5	Champaran ... ..	...	...	3	1,610 0 0	19	1,218 12 0	67	...	...	...	...	...
6	Muzaffarpur ... ..	...	...	4	2,040 0 0	13	1,474 4 0	79	...	...	...	...	...
7	Darbhanga ... ..	...	...	4	2,432 7 0	10	774 0 0	88	...	...	...	...	...
	Total of Tirhut Division ...	...	...	15	8,197 7 0	53	4,647 5 0	317	...	...	...	...	...
	BHAGALPUR DIVISION.												
8	Monghyr ... ..	...	...	4	2,030 0 0	8	928 0 0	61	...	...	...	1	95 5 0
9	Bhagalpur ... ..	...	...	5	3,615 13 0	11	1,616 6 0	63	...	...	...	...	...
10	Purnea ... ..	...	...	4	1,860 0 0	11	1,435 9 0	53	...	...	...	...	...
11	Santal Parganas ... ..	...	...	7	3,310 13 0	10	1,875 0 6	57	...	...	...	...	...
	Total of Bhagalpur Division ...	...	...	20	10,816 10 0	40	5,851 15 6	237	...	...	...	1	95 5 0
	ORISSA DIVISION.												
12	Cuttack ... ..	...	...	4	2,160 0 0	21	2,319 10 5	73	...	...	...	...	...
13	Balasore ... ..	...	...	3	1,950 0 0	7	677 9 0	30	...	...	...	...	...
14	Angul ... ..	...	...	3	2,505 0 0	...	...	10	...	...	...	...	...
15	Puri ... ..	...	...	3	1,115 9 0	35	3,314 5 0	...	...	...	...	...	...
16	Sambalpur ... ..	...	...	3	1,500 0 0	4	670 0 0	34	...	...	...	...	...
	Total of Orissa Division ...	...	...	16	9,510 0 0	67	6,981 8 5	147	...	...	...	...	...
	CHOTA NAGPUR DIVISION.												
17	Hazaribagh ... ..	...	...	4	2,661 13 0	11	1,836 0 6	45	...	...	...	...	...
18	Ranchi ... ..	...	...	5	2,550 0 0	9	1,155 11 0	47	...	...	...	...	...
19	Palamau ... ..	...	...	3	1,439 8 0	6	712 8 0	25	...	...	...	...	...
20	Manbhum ... ..	...	...	17	2,610 0 0	34	4,153 11 0	40	...	...	...	...	...
21	Singhbhum ... ..	...	...	3	1,472 6 0	3	634 11 9	26	...	...	...	...	...
	Total of Chota Nagpur Division ...	...	...	32	10,736 11 0	63	8,492 10 3	183	...	...	...	...	...
	Total of Vaccine Circle ...	...	...	98	46,537 5 0	278	32,607 1 5	1,111	...	...	...	5	551 5 0
	ESTABLISHMENT OF THE ASSISTANT DIRECTOR OF PUBLIC HEALTH, NORTH BIHAR CIRCLE.	...	...	1	8,918 8 0	...	...	...	...	2	1,260 0 0	2	252 5 0
	DITTO SOUTH BIHAR CIRCLE	...	...	1	18,669 0 0	...	...	...	...	2	1,260 0 0	2	227 8 0
	DITTO CHOTA NAGPUR AND ORISSA CIRCLE.	...	...	1	12,800 4 0	...	...	...	...	2	1,759 11 0	2	269 6 0
	Total ...	...	...	3	38,387 12 0	...	...	...	...	6	4,279 11 0	6	749 3 0
	Total of Province ...	...	...	...	81,925 1 0	278	32,607 1 5	1,111	...	8	4,279 11 0	11	1,300 8 0



## Province of Bihar and Orissa during the year 1926-27.

diture.					Paid from—						Number of all successful vaccinations and re-vaccinations.	Average cost of each successful case.
Total pay of establishment.	Travelling allowance.	Contingencies.		Total cost.	Imperial Fund.	Provincial Fund.	Local Fund.	Municipalities.	Native States.	Total.		
15	16	17	18	19	20	21	22	23	24	25	26	27
Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.		Rs. a. p.
5,018 8 6	1,380 4 0	...	100 0 0	7,398 12 6	...	4,005 7 6	1,560 8 0	1,832 13 0	...	7,398 12 6	95,281	0 1 3
4,871 13 0	1,526 1 0	...	245 15 3	6,643 12 3	...	4,128 0 0	1,631 1 0	894 11 3	...	6,643 12 3	68,243	0 1 6
3,572 5 9	1,653 5 0	...	177 14 0	5,406 8 9	...	4,246 5 0	224 0 3	936 3 6	...	5,406 8 9	74,284	0 1 2
14,362 10 3	4,562 10 0	...	523 13 3	19,449 1 6	...	12,379 13 6	3,415 9 3	3,653 11 9	...	19,449 1 6	207,808	0 1 3
3,295 5 0	1,266 6 0	...	325 8 9	4,887 3 9	...	3,501 6 0	470 10 0	906 3 9	...	4,887 3 9	76,650	0 1 0
2,828 12 0	1,094 13 0	...	147 0 8	4,070 9 3	...	2,956 11 0	757 0 3	356 14 0	...	4,070 9 3	58,018	0 1 1
3,514 4 0	516 4 0	...	377 14 0	4,408 6 0	...	2,666 4 0	670 12 0	1,071 6 0	...	4,408 6 0	100,208	0 0 8
3,206 7 0	1,226 11 4	...	129 7 0	4,562 9 4	...	3,746 1 4	...	816 8 0	...	4,562 9 4	104,475	0 0 8
12,844 12 0	4,104 2 4	...	979 14 0	17,028 12 4	...	12,870 6 4	1,907 6 3	3,150 15 9	...	17,028 12 4	339,351	0 0 10
3,053 5 0	1,254 12 0	...	274 0 0	4,532 1 0	...	3,374 12 0	366 0 0	841 5 0	...	4,552 1 0	76,993	0 0 11
5,232 3 0	532 7 0	...	211 8 0	5,976 2 0	...	4,238 4 0	1,076 6 0	661 8 0	...	5,976 2 0	79,116	0 1 2
3,295 9 0	1,633 1 0	...	268 6 0	5,197 0 0	...	3,518 1 0	586 9 0	1,092 6 0	...	5,197 0 0	51,540	0 1 7
5,185 13 6	2,939 11 0	...	159 5 0	8,284 13 6	...	6,350 8 0	1,031 6 0	852 15 6	...	8,284 13 6	67,396	0 1 11
16,766 14 6	6,359 15 0	...	913 3 0	24,040 0 6	...	17,481 9 0	3,110 5 0	3,448 2 6	...	24,040 0 6	275,045	0 1 4
4,470 10 5	1,359 3 0	...	100 0 0	5,938 13 5	...	3,619 3 0	1,414 7 11	905 2 6	...	5,938 13 5	45,413	0 2 1
2,607 9 0	1,182 1 0	...	120 1 0	3,909 11 0	...	3,693 11 0	...	216 0 0	...	3,909 11 0	42,633	0 1 5
2,505 0 0	1,063 11 0	...	270 12 0	3,839 7 0	...	3,839 7 0	...	...	...	3,839 7 0	17,465	0 3 6
4,720 14 0	917 2 0	...	215 0 0	5,862 0 0	...	2,547 11 0	3,119 9 0	194 12 0	...	5,862 0 0	48,560	0 2 0
2,170 0 0	878 11 0	...	118 3 0	3,166 14 0	...	2,477 4 0	442 0 0	247 10 0	...	3,166 14 0	20,771	0 2 5
16,492 1 5	5,400 12 0	...	824 0 0	22,716 13 5	...	16,177 4 0	4,976 0 11	1,563 8 6	...	22,716 13 5	172,842	0 2 1
4,500 13 6	532 12 0	...	100 0 0	5,133 9 6	...	3,297 9 0	1,273 4 6	562 13 0	...	5,133 9 6	45,942	0 1 9
3,705 11 0	1,572 0 0	...	90 0 0	5,367 11 0	...	4,401 11 0	180 0 0	786 0 0	...	5,367 11 0	58,274	0 1 5
2,152 0 0	945 4 0	...	52 0 0	3,149 4 0	...	2,415 4 0	375 7 9	358 8 3	...	3,149 4 0	22,624	0 2 2
6,763 11 0	795 10 0	...	98 8 0	7,647 13 0	...	2,706 0 0	4,519 12 0	422 1 0	...	7,647 13 0	74,816	0 1 6
2,107 1 9	784 6 0	...	66 7 6	2,957 15 3	...	2,316 12 0	...	641 3 3	...	2,957 15 3	21,566	0 2 3
19,229 5 3	4,630 0 0	...	396 15 6	24,256 4 9	...	15,137 4 0	6,348 8 3	2,770 8 6	...	24,256 4 9	223,282	0 1 9
79,695 11 5	25,067 7 4	...	3,637 13 9	1,08,391 0 6	...	74,046 3 10	19,757 13 8	14,586 15 0	...	1,08,391 0 6	1,248,328	0 1 5
10,430 13 0	3,549 12 0	...	759 15 11	14,740 8 11	...	14,740 8 11	...	...	...	14,740 8 11	...	...
18,156 8 0	2,329 8 0	...	495 5 0	20,981 5 0	...	20,981 5 0	...	...	...	20,981 5 0	...	...
14,829 5 0	2,800 0 0	...	340 0 0	17,969 5 0	...	17,969 5 0	...	...	...	17,969 5 0	...	...
43,416 10 0	8,679 4 0	...	1,595 4 11	53,691 2 11	...	53,691 2 11	...	...	...	53,691 2 11	...	...
1,23,112 5 5	33,736 11 4	...	5,233 2 8	1,62,082 3 5	...	1,27,737 6 9	19,717 13 8	14,586 15 0	...	1,62,082 3 5	...	0 2 1

### B.—DISPENSARY VACCINATION.

STATEMENT NO. III.—Showing Dispensary Vaccination in the Province of Bihar and Orissa during the year 1926-27.

[illegible]



Statement of the Affairs of the United States for the Year 1860									
Receipts					Disbursements				
Total					Total				
1860					1860				
1861					1861				
1862					1862				
1863					1863				
1864					1864				
1865					1865				
1866					1866				
1867					1867				
1868					1868				
1869					1869				
1870					1870				
1871					1871				
1872					1872				
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1964					1964				
1965					1965				
1966					1966				
1967					1967				
1968					1968				
1969					1969				
1970					1970				
1971					1971				
1972					1972				
1973					1973				

## COMPARATIVE STATEMENT NO. IV.—Showing the number of persons primarily vaccinated, and the number of those per-

Establishment.	Persons primarily							
	1917-18.		1918-19.		1919-20.		1920-21.	
	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.
1	2	3	4	5	6	7	8	9
Government ...	6,984	6,050	6,637	5,941	7,363	6,520	1,927	1,831
Municipal ...	37,586	36,107	36,573	35,213	36,810	35,428	32,858	31,541
Local Fund ...	82,772	77,911	59,639	56,495	69,847	66,946	80,337	77,939
Dispensaries...	181	177	139	139	178	178	262	262
Licensed Vaccinators ...	931,549	926,281	816,096	811,506	811,168	806,217	854,339	848,948
Total ...	1,059,072	1,046,526	919,084	909,294	925,366	915,289	969,723	960,521



sons who were successfully vaccinated in the Province of Bihar and Orissa in each of the undermentioned official years.

vaccinated.

1921-22.		1922-23.		1923-24.		1924-25.		1925-26.		1926-27.	
Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.
10	11	12	13	14	15	16	17	18	19	20	21
891	825	794	735	1,104	1,018	785	725	885	772	3,877	3,636
31,136	30,040	29,927	28,963	33,760	32,833	32,110	30,816	40,318	39,370	36,075	34,780
71,144	68,523	70,386	67,809	74,767	71,969	75,649	72,592	89,670	85,927	88,599	86,061
...	...	...	...	1	1	...	...	...	...	...	...
800,424	797,357	865,920	862,260	892,018	888,273	882,812	879,951	954,242	951,893	1,002,984	1,000,124
903,595	896,745	967,027	959,767	1,001,650	994,094	991,356	984,084	1,085,085	1,077,962	1,131,535	1,124,601

## STATEMENT NO. V.—Showing particulars of vaccination

District.	Total number of persons vaccinated.		Total number inspected—								Percentage of	
			By Assistant Directors of Public Health or Civil Surgeons.				By Native Superintendents or other Inspecting Officers.				By Assistant Director or Civil	
			Assistant Directors of Public Health.		Civil Surgeons.		District Inspectors.		Sub-Inspectors.		Assistant Director of Public Healths	
	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.
1	2	3	4	5	6	7	8	9	10	11	12	13
Patna ...	90,851	10,847	4,555	...	421	...	9,955	1,419	14,293	43	5'01	...
Gaya ...	65,368	4,843	2,854	...	...	...	14,640	...	13,630	727	4'36	...
Shahabad ...	69,186	9,166	3,365	...	2,870	22	8,606	62	16,266	95	4'86	...
Saran ...	76,317	1,810	4,208	...	3,650	...	7,367	...	16,071	...	5'51	...
Champaran ...	44,525	21,010	5,710	...	999	232	7,280	206	14,211	932	12'82	...
Muzaffarpur ...	95,057	14,523	6,224	...	8,683	998	18,497	78	31,119	419	6'54	...
Darbhanga ...	1,01,906	8,419	6,021	...	...	...	16,984	304	30,898	90	5'90	...
Monghyr ...	75,713	2,860	5,218	...	275	...	15,024	...	19,331	...	6'89	...
Bhagalpur ...	70,921	13,271	4,719	...	202	...	10,665	659	28,723	423	6'65	...
Purnea ...	49,439	4,961	3,314	...	1,190	7	22,200	94	9,910	83	6'70	...
Santal Parganas ...	58,169	15,753	5,966	...	2,981	975	5,064	...	22,485	2,251	10'25	...
Cuttack ...	59,684	14,211	2,842	...	117	1,077	6,351	291	11,294	246	7'12	...
Balasore ...	27,822	22,142	1,940	...	147	11	772	188	5,746	1,260	6'97	...
Angul ...	6,436	15,313	1,650	...	1,046	1,613	1,179	1,344	5,537	13,265	25'63	...
Puri ...	39,192	15,456	2,083	...	640	420	5,274	3,742	8,028	4,534	5'31	...
Sambalpur ...	20,468	1,012	2,050	...	1,377	380	5,450	22	4,744	30	10'01	...
Hazaribagh ...	42,158	7,123	5,791	...	705	372	3,358	41	7,708	89	13'73	...
Ranchi ...	49,808	11,900	2,123	...	125	...	9,672	...	24,824	1,818	4'66	...
Palamanu ...	22,438	1,726	2,771	...	3,910	85	6,866	82	11,333	103	12'35	...
Manbhum ...	66,135	20,014	2,068	...	713	874	21,662	7,037	4,773	471	3'12	...
Singhbhum ...	20,585	2,448	2,611	...	883	5	5,410	...	6,628	345	12'68	...
TOTAL ...	11,32,468	2,18,616	78,083	...	30,934	7,671	202,276	15,569	307,602	27,254	6'89	...



verified by Inspecting Officers during the year 1926-27.

Inspection to total number vaccinated.						Percentage of cases found successful to total number inspected.										Percentage of successful cases reported by vaccinators.	
By Assistant Directors of Public Health or Civil Surgeons.		By Native Superintendents or other Inspecting Officers.				By Assistant Directors of Public Health or Civil Surgeons.				By Native Superintendents or other Inspecting Officers.							
Civil Surgeons.		District Inspectors.		Sub-Inspectors.		Assistant Directors of Public Health.		Civil Surgeons.		District Inspectors.		Sub-Inspectors.					
Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.		
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29		
0.46	...	10.96	13.08	15.73	0.39	95.93	...	100.00	...	100.00	100.00	99.86	100.00	99.29	46.79		
...	...	22.89	...	20.85	15.00	98.45	...	...	...	00.04	...	99.56	80.05	99.60	61.55		
4.15	0.24	12.44	0.67	23.51	1.03	94.82	...	99.34	95.45	93.72	96.77	99.82	47.36	99.82	60.53		
4.78	...	9.65	...	21.05	...	88.81	...	08.63	...	98.07	...	98.03	...	99.53	58.28		
2.24	1.10	16.35	0.98	31.91	4.43	90.84	...	99.39	49.13	98.37	59.70	98.95	88.19	93.54	65.19		
9.13	6.87	19.45	0.53	32.64	3.09	96.01	...	99.97	36.47	99.51	55.12	99.22	39.19	99.49	38.17		
...	...	16.65	3.61	30.29	1.06	92.21	...	...	...	98.45	61.18	99.04	60.00	99.57	34.58		
0.36	...	10.84	...	25.53	...	95.19	...	99.27	...	97.00	...	96.00	...	99.93	60.04		
0.28	...	15.03	4.96	40.49	3.18	03.85	...	100.00	...	98.29	89.83	99.03	75.11	99.64	69.68		
2.41	0.14	44.89	1.89	20.04	1.67	82.95	...	07.64	100.00	99.53	92.55	09.06	100.00	93.60	46.34		
5.12	6.18	8.70	...	38.65	14.29	82.12	...	99.39	73.95	98.01	...	93.82	88.27	99.59	60.05		
0.29	7.58	15.92	2.04	28.31	1.73	83.21	...	100.00	47.07	97.74	79.38	97.25	45.50	99.12	41.35		
0.53	0.05	2.77	0.85	20.65	5.60	88.24	...	98.64	81.81	09.48	84.57	98.17	75.16	90.86	62.58		
16.25	10.53	18.32	8.77	86.03	86.62	93.63	...	99.04	73.03	97.03	68.75	98.17	70.81	98.91	77.78		
1.63	2.72	13.46	24.72	20.48	29.95	91.02	...	98.75	22.86	97.72	35.46	97.89	43.43	97.00	55.30		
6.72	37.54	26.63	2.17	23.18	2.96	87.41	...	95.79	41.84	95.52	45.45	88.30	26.66	99.21	45.85		
1.67	5.22	7.06	0.57	18.28	1.25	98.44	...	99.65	22.31	05.05	53.65	07.53	47.19	99.75	54.59		
0.25	...	19.45	...	40.84	15.28	95.05	...	100.00	...	97.50	...	96.79	55.72	98.97	71.25		
17.42	4.93	30.09	4.75	50.73	5.96	08.70	...	99.64	32.04	99.62	31.70	99.42	36.83	99.48	17.49		
1.07	4.36	32.75	35.15	7.22	2.35	94.63	...	99.71	50.83	96.69	66.36	99.20	64.96	99.87	46.18		
4.28	0.20	26.28	...	32.19	14.00	06.93	...	100.00	100.00	99.77	...	99.33	85.79	99.00	48.93		
2.73	3.23	17.86	7.12	27.16	6.07	92.64	...	98.28	52.83	08.36	63.73	98.45	66.91	99.42	53.45		

STATEMENT NO. VI.—Showing side by side the ratios, per 1,000 of population, of Deaths from

			1917-18.		1918-19.		1919-20.		1920-21.	
District.			Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.
1			2	3	4	5	6	7	8	9
Patna ...	...	...	0·15	68,529	0·13	68,535	0·85	68,573	2·79	71,340
Gaya ...	...	...	0·18	62,246	0·21	56,114	0·62	66,449	0·77	60,938
Shahabad	...	...	0·10	51,858	0·02	41,625	0·24	42,394	0·55	62,418
Saran ...	...	...	0·16	77,721	0·07	66,443	0·10	66,882	0·39	68,000
Champaran	...	...	0·11	51,755	0·14	50,191	0·13	53,458	0·29	56,914
Muzaffarpur	...	...	0·09	85,898	0·02	86,664	0·10	87,182	0·13	89,230
Darbhanga	...	...	0·07	93,206	0·08	86,555	0·10	88,770	0·17	93,468
Monghyr	...	...	0·10	68,361	0·05	56,576	0·24	59,814	0·28	55,104
Bhagalpur	...	...	0·22	68,166	0·09	59,034	0·23	56,741	0·22	58,176
Purnea	...	...	0·64	49,490	0·52	54,209	0·96	50,349	0·98	51,930
Santal Parganas	...	...	0·14	56,728	0·06	46,659	0·30	44,691	0·37	45,864
Cuttack	...	...	0·81	62,177	0·89	51,845	0·91	55,008	0·30	60,775
Balasore	...	...	0·03	25,800	0·09	20,942	0·86	22,139	0·54	27,597
Angul ...	...	...	0·01	6,956	0·06	6,751	1·11	5,739	...	4,060
Puri ...	...	...	0·26	34,639	0·75	33,543	3·12	32,940	0·77	41,225
Sambalpur	...	...	0·24	23,345	0·07	15,361	0·68	13,835	0·27	18,523
Hazaribagh	...	...	0·07	39,761	0·07	35,632	0·24	35,026	0·13	29,123
Ranchi	...	...	0·03	47,094	0·04	31,870	0·90	40,559	1·38	38,450
Palamau	...	...	0·06	26,893	0·06	20,472	1·26	21,226	1·76	19,346
Manbhum	...	...	0·02	52,289	0·05	37,807	0·44	57,908	0·11	43,192
Singhbhum	...	...	0·09	17,872	0·10	15,542	1·24	19,595	0·52	18,023
Total	...	...	0·19	1,070,784	0·17	942,370	0·53	989,278	0·56	1,013,696



*small-pox and the number of successful vaccinations during the ten years ending 1926-27.*

1921-22.		1922-23.		1923-24.		1924-25.		1925-26.		1926-27.	
Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.
10	11	12	13	14	15	16	17	18	19	20	21
0.46	63,297	0.05	62,673	0.06	61,595	0.13	65,553	0.49	72,006	1.69	95,281
0.24	42,710	0.04	47,263	0.04	51,137	0.04	54,569	0.46	63,986	2.21	68,243
0.22	69,010	0.04	58,782	0.02	59,661	0.10	40,418	0.16	56,596	0.99	74,284
0.13	37,665	0.02	66,871	0.05	72,449	0.44	76,858	0.50	81,358	0.50	76,650
0.08	36,927	0.06	44,499	0.09	45,103	0.38	45,011	0.65	50,934	0.98	58,018
0.04	82,124	0.04	86,141	0.12	92,087	0.21	91,519	0.24	97,064	0.36	100,208
0.03	88,504	0.06	88,188	0.05	93,651	0.15	90,640	0.12	101,040	0.27	104,475
0.14	54,215	0.11	62,958	0.09	70,828	0.12	61,341	0.11	71,423	0.62	76,993
0.13	62,115	0.09	64,294	0.48	65,464	0.46	66,255	0.13	74,520	0.65	79,116
0.29	36,428	0.24	38,977	0.06	35,218	0.04	43,877	0.17	48,715	0.69	51,540
0.05	50,187	0.01	55,085	0.03	56,056	0.06	60,838	0.17	62,352	0.90	67,396
0.04	61,424	0.15	61,752	0.28	46,041	0.77	45,282	2.50	62,758	2.92	45,413
0.09	23,380	0.17	23,541	0.37	30,195	0.34	25,376	1.71	35,409	2.34	42,633
...	4,968	0.005	5,511	...	6,159	...	6,168	...	19,937	0.06	17,465
0.08	34,897	0.13	35,208	0.25	36,479	1.21	36,877	7.21	61,320	3.54	46,560
0.03	20,829	0.006	18,791	0.01	23,757	0.12	21,487	0.60	21,881	0.68	20,771
0.02	29,524	0.02	31,985	0.03	35,784	0.05	36,243	0.34	44,380	1.00	45,942
0.21	38,997	0.05	41,821	0.01	44,812	0.02	49,358	0.34	57,397	1.02	58,274
0.56	16,898	0.09	15,585	0.04	16,466	0.01	19,747	0.06	21,210	0.28	22,624
0.02	43,484	0.02	52,428	0.01	58,031	0.02	50,700	0.32	71,523	0.42	74,816
0.32	16,605	0.18	16,998	0.14	16,058	0.36	22,511	0.52	25,635	0.16	21,596
0.14	917,188	0.07	979,351	0.11	1,017,031	0.24	1,010,628	0.67	1,201,414	1.05	1,248,328

STATEMENT NO. VII.--Showing the protection afforded to infants in each town in the Province of Bihar and Orissa during the year 1926-27.

District.	Towns.	Number of births during the year ending 31st March 1927.	Number of deaths amongst infants under one year during the year ending 31st March 1927.	Number of successful vaccinations amongst infants under one year during the year ending 31st March 1927.	Date of extension of Vaccination Act, to town.
1	2	3	4	5	6
Patna	Patna	4,070	648	1,362	1st October 1884.
	Bihar	1,613	215	278	1st April 1887.
	Dinapur	1,134	216	697	28th January 1891.
	Barh	360	66	67	1st April 1887.
	Khagole	315	57	88	12th July 1910.
	Total	7,492	1,205	2,492	
Gaya	Gaya	2,165	785	1,346	1st January 1883.
	Tikari	257	133	47	3rd January 1891.
	Daudnagar	362	64	180	Ditto.
	Total	2,784	982	1,573	
Shahabad	Arrah	1,373	267	687	20th July 1885.
	Buxar	387	64	254	1st April 1887.
	Dumraon	497	75	193	Ditto.
	Jagadispur	314	38	257	20th December 1890.
	Sassaram	862	147	707	1st April 1887.
	Bhabhua	230	41	152	Ditto.
	Total	3,663	632	2,250	
	Total of Patna Division.	13,939	2,819	6,315	
Saran	Chapra	1,445	203	903	1st April 1887.
	Revelganj	393	64	307	12th December 1890.
	Siwan	425	32	315	1st April 1887.
	Total	2,263	299	1,525	
Champaran	Motihari	466	90	305	1st April 1887.
	Bettiah	932	116	258	Ditto.
	Total	1,398	206	563	



STATEMENT NO. VII.—Showing the protection afforded to infants in each town in the Province of Bihar and Orissa during the year 1926-27—contd.

District.	Towns.	Number of births during the year ending 31st March 1927.	Number of deaths amongst infants under one year during the year ending 31st March 1927.	Number of successful vaccinations amongst infants under one year during the year ending 31st March 1927.	Date of extension of Vaccination Act to town.
1	2	3	4	5	6
Muzaffarpur	Muzaffarpur ...	1,386	301	270	1st January 1886.
	Sitamarhi ...	333	55	92	1st April 1887.
	Hajipur ...	857	273	139	1st May 1890.
	Lalganj ...	371	71	78	1st April 1887.
	Total ...	2,947	700	579	
Darbhanga	Darbhangha ...	2,042	280	620	24th May 1884.
	Roserha ...	408	48	163	3rd January 1891.
	Samastipur ...	302	60	112	25th July 1910.
	Madhubani ...	692	68	337	1st April 1887.
	Total ...	3,444	456	1,232	
	Total of Tirhut Division.	10,052	1,661	3,899	
Monghyr	Monghyr ...	2,057	323	649	15th November 1882.
	Jamalpur ...	1,045	166	378	Ditto.
	Total ...	3,102	489	1,027	
Bhagalpur	Bhagalpur ...	1,926	273	1,248	15th February 1884, withdrawn on 16th October 1895 ; re-extended on 18th August 1898.
	Colgong ...	138	20	55	Ditto, re-extended on 19th December 1901.
	Total ...	2,064	293	1,303	
Purnea	Purnea ...	248	33	191	1st July 1887.
	Kishanganj ...	107	10	90	12th November 1892.
	Katihar ...	299	21	37	8th August 1910.
	Forbesganj ...	133	20	63	9th August 1912.
	Total ...	787	84	381	

STATEMENT NO. VII.—Showing the protection afforded to infants in each town in the Province of Bihar and Orissa during the year 1926-27—contd.

District.	Towns.	Number of births during the year ending 31st March 1927.	Number of deaths amongst infants under one year during the year ending 31st March 1927.	Number of successful vaccinations amongst infants under one year during the year ending 31st March 1927.	Date of extension of Vaccination Act to town.
1	2	3	4	5	6
Santal Parganas ...	Sahibganj ...	616	73	243	1st May 1884.
	Deoghar ...	278	24	110	Ditto.
	Madhupur ...	326	43	131	22nd August 1910.
	Dumka ...	237	45	145	Notifications, dated the 9th April 1884, and 23rd August 1910.
	Total ...	1,457	185	629	
Total of Bhagalpur Division.		7,410	1,051	3,340	
Cuttack ...	Cuttack ...	651	114	147	1st September 1884.
	Kendrapara ...	220	57	30	7th February 1888.
	Jajpur ...	124	28	90	Ditto.
	Total ...	995	199	267	
Balasore ...	Balasore ...	329	88	67	7th February 1888.
Puri ...	Puri ...	576	260	244	Ditto.
Sambalpur ...	Sambalpur ...	301	61	161	7th March 1895.
Total of Orissa Division.		2,201	608	739	
Hazaribagh ...	Hazaribagh ...	465	60	303	1st January 1885.
	Chatra ...	466	55	248	1st August 1885.
	Giridih ...	473	47	167	8th September 1910.
	Total ...	1,404	162	718	
Ranchi ...	Ranchi ...	942	95	807	1st April 1887.
	Lohardaga ...	221	11	197	25th June 1882.
	Total ...	1,163	106	1,004	



STATEMENT NO. VII.—Showing the protection afforded to infants in each town in the Province of Bihar and Orissa during the year 1926-27—concl'd.

District.		Towns.	Number of births during the year ending 31st March 1927.	Number of deaths amongst infants under one year during the year ending 31st March 1927.	Number of successful vaccinations amongst infants under one year during the year ending 31st March 1927.	Date of extension of Vaccination Act to town.
1		2	3	4	5	6
Palamau	...	Daltonganj ...	425	44	78	9th October 1890.
		Purulia ...	394	33	212	1st January 1887.
Manbhum	...	Raghunathpur ...	188	20	27	9th February 1894.
		Jhalda ...	207	21	120	9th July 1892.
		Dhanbad ...	143	9	11	5th December 1918.
		Total ...	1,357	127	370	
		Chaibassa ...	238	32	108	20th June 1892.
Singhbhum	...	Chakradharpur ...	106	21	41	13th January 1919.
		Jugsalai ...	269	23	108	1st April 1924.
		Total ...	613	76	257	
		Total of Chota Nagpur Division.	4,537	471	2,427	
		Total for the Province	38,139	6,610	16,720	

## Provincial Statement showing the different kinds of lymph

District.	Primary vaccination											
	Direct from the calf.					With lanoline or glycerine lymph.					Arm-to-arm	
	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.
1	2	3	4	5	6	7	8	9	10	11	12	13
Patna	...	...	...	...	...	90,851	90,205	469	177	99.29	...	...
Gaya	...	...	...	...	...	65,368	65,093	161	114	99.58	...	...
Shahabad	...	...	...	...	...	69,186	69,063	79	44	99.82	...	...
Saran	...	...	...	...	...	76,317	75,593	378	344	99.05	...	...
Champaran	...	...	...	...	...	44,525	44,321	132	72	99.54	...	...
Muzaffarpur	...	...	...	...	...	95,057	94,576	443	38	99.49	...	...
Darbhanga	...	...	...	...	...	101,996	101,563	373	60	99.57	...	...
Monghyr	...	...	...	...	...	75,713	75,654	48	11	99.92	...	...
Bhagalpur	...	...	...	...	...	70,921	70,672	187	62	99.64	...	...
Purnea	...	...	...	...	...	49,439	49,244	168	27	99.60	...	...
Santal Parganas	...	...	...	...	...	58,169	57,933	106	130	99.59	...	...
Cuttack	...	...	...	...	...	39,884	39,534	122	228	99.12	...	...
Balasore	...	...	...	...	...	27,822	27,775	6	41	99.83	...	...
Angul	...	...	...	...	...	6,436	6,342	57	37	98.53	...	...
Puri	...	...	...	...	...	39,192	38,018	153	1,021	97.00	...	...
Sambalpur	...	...	...	...	...	20,468	20,307	86	75	99.21	...	...
Hazaribagh	...	...	...	...	...	42,158	42,053	55	50	99.75	...	...
Ranchi	...	...	...	...	...	49,808	49,795	11	2	99.97	...	...
Palamanu	...	...	...	...	...	22,438	22,321	29	83	99.47	...	...
Manbhum	...	...	...	...	...	66,135	64,932	670	533	98.18	...	...
Singhbhum	...	...	...	...	...	20,585	20,398	66	121	99.09	...	...
TOTAL	...	...	...	...	...	1,132,468	1,125,394	3,799	3,275	99.37	...	...



II.

used and their rates of success during the year 1926-27.

			Re-vaccination.														
vaccination.			Direct from the calf.					With lanoline or glycerine lymph.					Arm-to-arm vaccination.				
Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
...	...	...	...	...	...	...	...	10,847	5,076	3,714	2,057	46.79	...	...	...	...	...
...	...	...	...	...	...	...	...	4,846	3,150	1,081	615	65.00	...	...	...	...	...
...	...	...	...	...	...	...	...	9,166	5,221	3,700	245	56.96	...	...	...	...	...
...	...	...	...	...	...	...	...	1,810	1,055	543	212	58.28	...	...	...	...	...
...	...	...	...	...	...	...	...	21,010	13,697	3,921	3,392	65.19	...	...	...	...	...
...	...	...	...	...	...	...	...	14,523	5,632	5,852	3,039	38.77	...	...	...	...	...
...	...	...	...	...	...	...	...	8,419	2,912	4,405	1,102	34.58	...	...	...	...	...
...	...	...	...	...	...	...	...	2,660	1,339	891	430	50.34	...	...	...	...	...
...	...	...	...	...	...	...	...	13,271	8,444	3,575	1,252	63.62	...	...	...	...	...
...	...	...	...	...	...	...	...	4,961	2,296	2,103	562	46.28	...	...	...	...	...
...	...	...	...	...	...	...	...	15,758	9,463	3,632	2,663	60.05	...	...	...	...	...
...	...	...	...	...	...	...	...	14,211	5,879	4,640	3,692	41.36	...	...	...	...	...
...	...	...	...	...	...	...	...	22,142	14,858	4,324	2,960	67.10	...	...	...	...	...
...	...	...	...	...	...	...	...	15,313	11,123	3,153	1,037	72.65	...	...	...	...	...
...	...	...	...	...	...	...	...	15,456	8,542	2,965	3,949	55.26	...	...	...	...	...
...	...	...	...	...	...	...	...	1,021	464	400	148	45.85	...	...	...	...	...
...	...	...	...	...	...	...	...	7,123	3,889	1,998	1,236	54.59	...	...	...	...	...
...	...	...	...	...	...	...	...	11,900	8,479	2,400	1,021	71.25	...	...	...	...	...
...	...	...	...	...	...	...	...	1,726	303	433	990	17.55	...	...	...	...	...
...	...	...	...	...	...	...	...	20,014	9,914	6,139	3,961	49.53	...	...	...	...	...
...	...	...	...	...	...	...	...	2,443	1,198	290	960	48.93	...	...	...	...	...
...	...	...	...	...	...	...	...	218,616	122,934	60,159	35,523	56.23	...	...	...	...	...







